



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<p>(54) Title: INCONTINENCE GUARD FOR MEN</p> <div data-bbox="695 1087 1169 1680"> </div> <p>(57) Abstract</p> <p>The invention relates to a male incontinence guard intended for one-time use only and including an inner, liquid permeable casing layer (2), which is intended to lie closest to the body of the wearer in use, an outer liquid impermeable casing layer (3) and an absorbent pad (4) enclosed between the layers. According to the invention, a first part of the absorbent pad (4) intended to surround the user's scrotum, at least completely or partially, when the guard is in use, narrows towards the scrotum end (10) of the absorbent pad, i.e. towards the free end of the aforesaid first part of the pad; in that at least one elastic device (9) is attached in a prestretched state to the inner casing layer (2) and extends from the scrotum end (10) along each of the side edges (5a, 5b) of the pad over at least a part of the lengths of the side edges; and in that contraction of the elastic device or elastic devices form the prestretched state causes the first part of the absorbent body to take a curved shape so that, when the guard is used, the aforementioned part will be curved inwardly beneath the scrotum of the wearer.</p>		

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INCONTINENCE GUARD FOR MEN

The present invention relates to a male incontinence guard intended for one-time use only and including an  
5 inner, liquid-permeable casing layer which is intended to lie closest to the wearer's body in use, an outer, liquid-impermeable casing layer, and an absorbent body or pad located between said casing layers.

10 Incontinence guards used hitherto have normally consisted of conventional diapers of substantially flat configuration, for instance of rectangular shape. Diapers, however, are intended to absorb both urine and faeces and are therefore not appropriate for use by persons  
15 who solely require a urine-collecting incontinence guard. The diaper must have a given width and absorbent material a given thickness in order to achieve satisfactory absorbency. Consequently, the diaper will occur, a correspondingly large space between the thighs  
20 of the wearer, so as to cause discomfort, such as chafing for instance. Furthermore, there is a serious risk that urine will leak at the edges of the diaper when the diaper becomes saturated and is compressed between the wearer's thighs.

25 Large, bulky diapers are unacceptable to males who suffer from incontinence but who are otherwise not handicapped. In addition to being uncomfortable when worn, large, bulky diapers are not readily accommodated  
30 in conventional clothing.

Mild incontinence is a hidden handicap suffered by many people. A large group of such people is comprised of males with prostate trouble. Subsequent to under-  
35 going prostate surgery, these men are normally troubled

by drop-incontinence, which hitherto has resulted in  
psysic suffering, since no suitable guard is available.

5 Incontinence guards intended for men afflicted with  
mild incontinence are known per se. When worn, one such  
known guard has the form of a cone-shaped container  
which embraces the genital organs of the male wearer.  
One drawback with this known guard is that it is much  
too warm and fits much too tightly when worn, and is  
10 therewith uncomfortable to the wearer. A further draw-  
back is that the guard is much too inflexible for  
comfort.

15 The Swedish Patent Specification No. SE 450 811 teaches  
a male incontinence guard which comprises an upper  
shield-like part which lies over the penis and scrotum  
of the wearer in use, and a lower part which, in use,  
curves inwardly beneath the penis and scrotum of the  
wearer without completely enclosing the same. The guard  
20 has a downwardly narrowing and basin-like configura-  
tion. This guard thus avoids tightly enclosing the  
organs of the wearer, which is naturally beneficial  
from the aspect of comfort.

25 The guard is formed from a flat blank, one end part of  
which comprises two flaps whose mutually adjacent edge  
lines depart from a common point on the guard.

30 The basin-like configuration is obtained by bringing  
the flaps to a position in which the edge lines overlap  
one another, and then joining the flaps in this region.

One drawback with an incontinence guard of this design  
resides in the complicated manufacturing procedures  
35 required by the different clipping and joining steps.

5 The present invention provides an incontinence guard ,  
for males who suffer mild drop-incontinence, with which  
the drawbacks of the aforesaid incontinence guards are  
not found.

10 An inventive incontinence guard is characterized in  
that at least a first part of the absorbent pad in-  
tended to embrace, completely or partially, the  
wearer's scrotum in use, narrows towards the scrotum  
end of the absorbent pad, i.e. towards the free end of  
said first part of the absorbent pad; in that at least  
one elastic device is attached, in a prestretched  
state, to the inner casing layer and extends from the  
15 scrotum end along each of the side edges of the absor-  
bent pad over at least a part of their length; and in  
that contraction of the elastic device or devices from  
its or their prestretched state imparts to the first  
part of the absorbent body a curved shape such that  
20 said part will be curved inwardly beneath the wearer's  
scrotum when the guard is worn.

25 This results in a compliable incontinence guard which  
can be worn comfortably. Due to the effect of the  
elastic devices, the guard will conform more readily to  
the wearer's genitals than the known guards. Absorbent  
sanitary products, such as male incontinence guards,  
must not fit too tightly, feel uncomfortable and be too  
confining, these requirements being far from unessen-  
30 tial. For psychological reasons, the guard should not  
even be thought to be tightly confining and unpleasant  
by the presumptive user.

35 As a result of its construction, an inventive incon-  
tinence guard is both simple to manufacture and easy to

handle by the user. Triangular absorption pads can be manufactured rationally from a continuous web of absorbent material, without material waste and complicated folding steps.

5

The invention will now be described in more detail with reference to an exemplifying embodiment thereof illustrated in the accompanying drawings, in which Figure 1 illustrates one embodiment of an inventive guard and shows the guard extended with the side intended to lie against the wearer in use facing the viewer, and Figure 2 is a perspective view of the guard illustrated in Figure 1, and shows the elastication in its active state.

15

The incontinence guard 1 illustrated in Figures 1-2 comprises a liquid permeable layer 2, a liquid impermeable layer 3, and an absorbent pad 4 enclosed between the two layers 2 and 3. The pad 4 may comprise an absorbent fibre material, for instance fluff. If desired, the fluff can be admixed with other absorbent material, for instance so-called superabsorbent polymers, by which is meant polymers that are capable of absorbing liquid in quantities corresponding to many times the natural weight of the polymers. Other substances of a non-absorbent nature can be admixed in the absorbent pad, for instance melt fibres.

20

25

The absorbent pad may comprise either one absorbent layer or several absorbent layers, where the various layers may also comprise mutually different absorbent material. The absorbent pad 4 may have the shape of an isosceles triangle, with two edges 5a and 5b of mutually equal length and a third, shorter edge 5c.

35

The liquid permeable layer 2 is suitably made of non-woven material. Another conceivable material is perforated plastic. The liquid-impermeable layer 3 may  
5 comprise a polyethylene or polypropylene plastic, or some other liquid impervious plastic. Another conceivable material is hydrophobized non-woven material. The outer layers 2 and 3 will preferably have the same thickness and shape, and both will project slightly beyond the edges 5a, 5b, 5c of the absorbent pad, such  
10 as to form side flaps 6a, 6b, 6c along which the layers 2 and 3 are mutually joined with the aid of a binder, for instance melt glue. The equally long edges 5a, 5b of the pad are therewith corresponded by side flaps 6a, 6b of mutually equal length, while the third edge 5c of  
15 the absorbent pad is corresponded by a third side flap 6c. The liquid impervious material in the lining 3 is preferably permeable to air and vapours.

Prestretched elastic devices 9 are attached in the side  
20 flaps 6a, 6b of mutually equal lengths. The elastic devices 9 may, for instance, have the form of elastic threads, bands or the like. The use of elastic foam material is also conceivable. The elastic devices are preferably glued to one or to both of the outer layers  
25 2, 3. The elastic devices may be placed at any desired distance from the edges 5a, 5b, and the side flaps 6a, 6b, 6c can have any desired size.

Figure 1 illustrates the incontinence guard in an  
30 extended or outwardly stretched form, i.e. with the elastic devices in a prestretched state, whereas Figure 2 illustrates the guard in the form in which it is used, i.e. with the elastic devices in a contracted state. Shortening of the elastic devices by contraction  
35 is permitted by curving of the absorbent pad 4. The

local resistance of the pad to bending about axes parallel with the edge 5c decreases towards the end 10, and consequently the pad 4 will bend or curve more pronouncedly in the region nearest the end 10 than in parts more distal therefrom. As will be seen from Figure 2, the elastic devices 9 generate a curved, container-like part 7 which is intended to embrace the scrotum of the wearer in use, either completely or partially. Due to bending or curvature of the absorbent pad, pleating of the casing materials caused by the elastic devices will cause the side flaps 6a, 6b to be upstanding in relation to the absorbent pad.

The elastic devices may be prestressed to the same or different degree within different parts of the side flaps 6a, 6b. Naturally, different degrees of elastic pretensioning can be considered, depending on the curvature desired and also on the desired size of the incontinence guard.

According to one preferred embodiment of the invention, the elastic devices are attached in the side flaps 6a, 6b in spaced relationship with the edges 5a, 5b of the absorbent pad. As a result of this arrangement, the elastic devices 9 lift-up the side flaps 6a, 6b so as to form leakage-preventing barriers. Furthermore, the side flaps can be utilized in a simple and practical fashion when putting on the guard. When putting on the guard, the guard is first twisted so as to curve in the opposite direction to that intended when the guard is worn, whereafter the guard is gripped with the fingers of one hand in the region of the pointed end 10, in one region of the side flaps 6a, 6b between the elastic devices 9 and the edges 5a, 5b of the absorbent pad, whereafter the guard is then twisted into position over

the wearer's genitals, with the aid of the elastica-  
tion.

5 Although not preferred, the elastic devices may alter-  
natively be placed over the absorbent pad 4. In this  
case, the side flaps 6a, 6b are not raised by the  
elastic devices to form barriers and contraction of the  
elastic devices is permitted by pleating of the liquid  
permeable casing layer.

10

The invention shall not be considered to be limited to  
the aforescribed exemplifying embodiments, since  
several modifications can be made within the scope of  
the following Claims. For instance, the elastic devices  
15 9 can be mutually joined at the end 10 and may consist  
of one single elastic thread.

20

Furthermore, the absorbent pad, similar to the incon-  
tinence guard, may have a narrowing form at least in  
that part which is intended to surround the scrotum. It  
will also be understood that triangles having rounded  
corners and triangles having non-linear edges are also  
conceivable. In order to enable the article to be  
gripped more readily when putting on the article, the  
25 absorbent pad may advantageously be provided with  
rounded recesses. This arrangement also results in  
higher sealing barriers, since the distance between the  
edge of the side flap and the edge of the absorbent pad  
increases when such recesses are provided.

30

It will also be understood that some form of absorbent  
material can also be included in the side flaps. In  
order to achieve a good elastic seal and enable the  
article to be twisted readily when putting on the  
35 article, the material used in the side flaps must be

more flexible and bendable than the material used in the absorbent pad.

5 In one variant of the inventive article, it is conceivable to provide said article with cross-elastication, so that the absorbent pad will also bend around longitudinally extending axes.

10 Also conceivable is the use of casing material which will contract and is elastic subsequent to being heated, and to heat this elastication locally instead of using elastic threads and the like which must be held constantly stretched during manufacture of the guard.

Claims

1. A male incontinence guard intended for one-time use only and including an inner, liquid permeable casing layer (2), which is intended to lie closest to the body of the wearer in use, an outer liquid impermeable casing layer (3) and an absorbent pad (4) enclosed between said layers, c h a r a c t e r i z e d in that at least a first part of the absorbent pad (4) intended to surround the user's scrotum, at least completely or partially, when the guard is in use, narrows towards the scrotum end (10) of the absorbent pad, i.e. towards the free end of the aforesaid first part of said pad; in that at least one elastic device (9) is attached in a prestretched state to the inner casing layer (2) and extends from the scrotum end (10) along each of the side edges (5a, 5b) of said pad over at least a part of the lengths of said side edges; and in that contraction of the elastic device or elastic devices from said prestretched state causes said first part of the absorbent body to take a curved shape so that, when the guard is used, said part will be curved inwardly beneath the scrotum of the wearer.
2. A guard according to Claim 1, c h a r a c - t e r i z e d in that the casing layers (2, 3) extend somewhat beyond the side edges (5a, 5b) of the absorbent pad; and in that the elastic device or elastic devices (9) is/are attached between the parts of the casing layers which extend beyond said side edges.

1/2

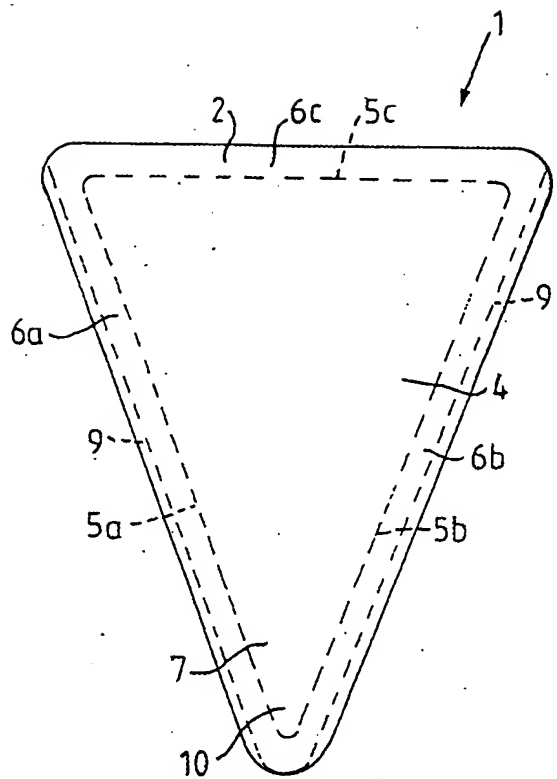


FIG.1

2/2

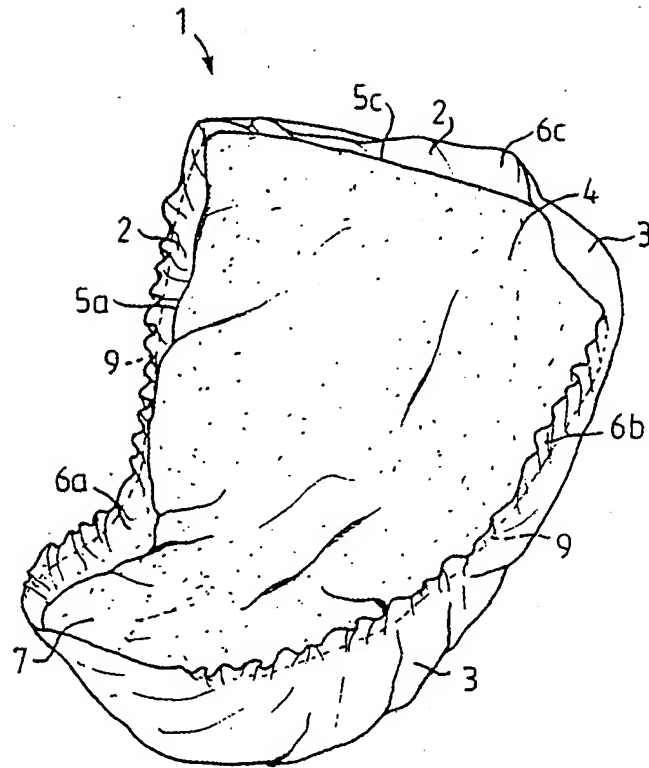


FIG. 2

# INTERNATIONAL SEARCH REPORT

International Application No PCT/SE 90/00744

<b>I. CLASSIFICATION OF SUBJECT MATTER</b> (If several classification symbols apply, indicate all) <sup>6</sup> According to International Patent Classification (IPC) or to both National Classification and IPC <b>IPC5: A 61 F 13/15</b>						
<b>II. FIELDS SEARCHED</b> <div style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black;">Minimum Documentation Searched<sup>7</sup></div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; border-bottom: 1px solid black;">Classification System</td> <td style="border-bottom: 1px solid black;">Classification Symbols</td> </tr> <tr> <td style="height: 40px; vertical-align: bottom;">IPC5</td> <td style="vertical-align: bottom;">A 61 F</td> </tr> </table> <div style="text-align: center; border-top: 1px solid black; border-bottom: 1px solid black;">Documentation Searched other than Minimum Documentation to the extent that such Documents are included in Fields Searched<sup>8</sup></div> <p>SE,DK,FI,NO classes as above</p>			Classification System	Classification Symbols	IPC5	A 61 F
Classification System	Classification Symbols					
IPC5	A 61 F					
<b>III. DOCUMENTS CONSIDERED TO BE RELEVANT</b>						
Category *	Citation of Document, <sup>11</sup> with indication, where appropriate, of the relevant passages <sup>12</sup>	Relevant to Claim No. <sup>13</sup>				
Y	WO, A1, 8605386 (THE SECRETARY OF STATE FOR SOCIAL SERVICES) 25 September 1986, see page 3, line 21 - line 24 --	1				
Y	SE, B, 406035 (MO OCH DOMSJÖ AB) 22 January 1979, see the whole document --	1				
Y	EP, A2, 0167931 (KIMBERLY-CLARK CORPORATION) 15 January 1986, see page 9, line 5 - line 10 --	1-2				
Y	CH, A5, 666612 (BOUSSAC SAINT-FRERES B.S.F.) 15 August 1988, see the whole document -- -----	1-2				
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<b>IV. CERTIFICATION</b>						
Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report					
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<b>SWEDISH PATENT OFFICE</b> <small>Form PCT/ISA/210 (second sheet) (January 1985)</small>	 <b>Ingrid Falk</b>					

**ANNEX TO THE INTERNATIONAL SEARCH REPORT  
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO-A1- 8605386	86-09-25	AU-B- 587438	89-08-17
		AU-D- 5542586	86-10-13
		EP-A-B- 0215833	87-04-01
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